

SYLLABUS
Natural Science 2110 – Environmental Science for Teachers
 Fall 2023

Instructor: Chuck Schick
Email: cschick@unm.edu or MS Teams chat feature included with your UNM Microsoft tools.
Office Hours: Monday at 3pm Health Sciences 108 or by appointment and you can always get me with a Teams message or email.
Course Textbook: Environmental Science (towards a sustainable future) 13th Ed. Wright and Boorse

CLASS SCHEDULE

Week No.	Week of:	CLASS TOPICS	LAB activities (some labs are outside so the schedule may change due to weather/daylight conditions)
1	Aug 20	Course Overview, Requirements, Policies, etc. Stewardship and Sound Science. What is the difference between science and advocacy?	Observation Laboratory
2	Aug 27	Ecosystems, Structures, biotic & abiotic relationships. Food Web. The flow of energy in the ecosystem	Data collection, analysis and modeling exercise
3	Sept 4	Labor Day. No class meeting but materials on MS Teams: Ecosystems, Structures, biotic & abiotic relationships.	CO ₂ Trends, plot the trend, make the prediction, verify prediction with recent data
4	Sept 11	Populations, relationships, succession Current Events #1 Any related subject	Temperature & humidity
5	Sept 18	Human Population Trends: Where are We? Where are we going? How fast? Population Problems. TEST #1 REVIEW	Soil Sample Collection
6	Sept 25	Current Events #2 TOPIC, CENSUS: Download or locate and present a topic from the Census that is applicable to population growth trends (Present to class. Summarize the data and tell the class YOUR INTERPRETATION for the future. Or what potential problem or good thing is happening <i>Yes, we'll expand further about this in class.</i> TEST#1	Measuring mass and density And/or pH lab
7	Oct 2	Current Events #2 TOPIC, CENSUS: Download or locate and present a topic from the Census that is applicable to population growth trends (Present to class. Summarize the data and tell the class YOUR INTERPRETATION for the future. Hydrologic Cycle, Groundwater, Surface Water and Pollution in Storm Water Runoff. Introduction to P2 issues. Brief explanation of current Storm-water Regulations, Surface water Regulations, Groundwater Regulations and their importance for environmental protection. What the EPA does NOT regulate too!! Soil and the Soil Eco-system.	Lab MAP MAKING LABORATORY, <i>Dress to be outside on campus (shoes).</i> <i>Or Groundwater Table mapping</i>

8	Oct 9	Hydrology, Climate and Weather (Continued) FALL BREAK (but class meets Monday) , so it really doesn't affect us. :(Population Lab, Take home lab
9	Oct 16	Food Production and Distribution Species Protection and Bio-diversity, Habitat Control	Groundwater quality measurements
10	Oct 23	Species Protection and Biodiversity, Habitat management TEST #2 REVIEW!!	Topo maps exercises
11	Oct 30	TEST #2 Hazards to Human Health, Overview of Environmental Regulations and Controlling Government Agencies. Who does what and why (USEPA, NMED, RCRA, CERCLA, OSHA). Plus, Web sites for these agencies and others for your classroom.	Soil Grain size analysis (using your soil samples)
12	Nov 6	Human Health based Risk Assessment- How is it done, what does it mean? Pesticides and Herbicides- What's bugging you and how do pesticides work? Water Pollution: Soil, Groundwater and Water Remediation Techniques: Mechanical, using plants, intrinsic, bioremediation, etc.	Groundwater contamination Lab
13	Nov 13	Water Pollution: Soil, Groundwater and Water Remediation Techniques: Mechanical, using plants, intrinsic, bioremediation, etc.	pH lab or Density/mass laboratory. Making part per million solutions
14	Nov 20	Landfills, Solid Wastes, Disposal, recycling etc. Everything you ever wanted to know about Subtitle D Landfills, hazardous waste landfills and special waste landfills.	Household Hazardous waste survey (Take Home Lab)
15	Nov 27	HAZARDOUS CHEMICALS AND WASTE (What's the difference?), Disposal of wastes and Reduction of Exposures ENERGY TEST #3 REVIEW	Chemical analysis of soil samples
16	Dec 4	TEST #3 Presentations of Research projects/ Final exam review	Presentations to class of your research project

Course Description

Introduces major issues in environmental science with emphasis on science processes, scientific investigations and field-based activities, and the integration of technology. Course topics include current issues on population, healthy ecosystems, and natural resources.

Final Exam:

According to the UNM master schedule is Wednesday Dec 13, at 3:00pm

Learning Objectives/Outcomes

1. Examine major water issues.
2. Determine the relationships between components of an ecosystem.
3. Analyze problems in food supply issues.
4. Examine differences in human population between the developing versus the developed world.
5. Contrast solutions to urban sprawl.
6. Contrast global solutions to the energy crisis.
7. Examine different solutions for addressing the global decline in biodiversity.

You can get even more details at https://hed.state.nm.us/uploads/documents/CCNS_Catalog_V21.pdf

Grading Policy:

Tests will be approximately 60% of Grade. Best 3 out of 4 Exams (Including the Final). The research project will count for 20% of your Grade. Current event presentations, labs, attendance and subject related games will be assessed at 20%. All percentages are approximate. The goal of grading is to provide you with multiple methods for demonstrating your knowledge and mastery of the material.

NO EXTRA CREDIT!

Make-up Tests:

No Make-up Exams. See Grading Policy below. Also, we can't make up labs. So be there. ALSO, Most of the labs are impossible to make up

Attendance:

The school policy will be followed. Therefore, not showing up for class could result in the "system" dropping you from the class. You should attend class regularly and get your notes. I don't give out notes. Part of your education is to process lecture material and put it into your own notes. If you are not going to attend class, please let me know **BEFORE CLASS**. **Lack of attendance will most likely reflect poorly on your final grade.**

Plagiarism/Cheating:

I encourage you to talk with one another about assignments before, and while, you do them, but all submitted work must be your own. In addition, if you copy information from textbooks, newspapers, the internet or other media sources you must cite them as your source of information. Blatant copying (plagiarism) will result in a score of zero for all students involved. A second offense will result in you receiving an F for this course. I would like to draw your attention to: [The University of New Mexico's policy on "Dishonesty in Academic Matters"](#):

Access/ACCOMMODATIONS:

If you have a documented disability, the Equal Access Services office will provide me with a letter outlining your accommodation. I will then discuss the accommodation with you to determine the best learning environment. If you feel that you need accommodations, but have not documented your disability, please contact Sarah Clawson, the coordinator for Equal Access Services at 925-8840 or sjclawson@unm.edu.

Electronic Devices:

To the benefit of you, your classmates and the learning environment **please turn off** electronic devices alarm, bell, buzzer, music etc. while you are in class. Your cooperation in these matters is appreciated by all.

Title IX: See <http://www2.ed.gov/about/offices/list/ocr/docs/> for information regarding these rules for a safe classroom for both students and teachers. Also, the Office of Equal Opportunity (oce.unm.edu) provides more information regarding these matters.

COVID 19 ISSUES:

NONE. But please, if you are truly sick and contagious with anything, don't come to class and pass it on to your classmates (and instructor 😊). Be respectful of your fellow classmates.